

SEARCH REQUEST FORM

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Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s):

I need references for both the Compounds shown in claim 47, particularly 9-(4-s-*tert*-butyl-*tert*-butyloxy) acid and their use as recited in claims 30-46.

Thank you.

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Date completed: 5/24/95
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FILE 'REGISTRY' ENTERED AT 12:13:27 ON 24 MAY 95
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=> d que 11

L1 1 SEA FILE=REGISTRY "9-CIS-RETINOIC ACID"/CN

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=> d que stat 14

L2 STR

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DEFAULT MLEVEL IS ATOM

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STEREO ATTRIBUTES: NONE

L4 7948 SEA FILE=REGISTRY SSS FUL L2

100.0% PROCESSED 27777 ITERATIONS (2 INCOMPLETE) 7948 ANSWERS
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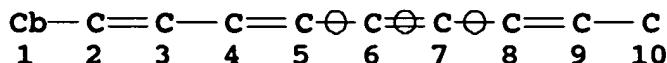
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L7 STR



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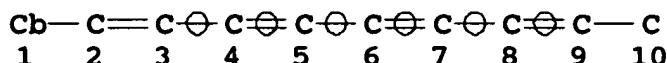
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GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

L9 STR



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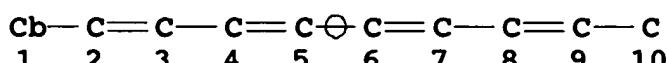
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L13 STR



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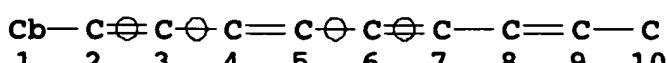
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RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L15 STR



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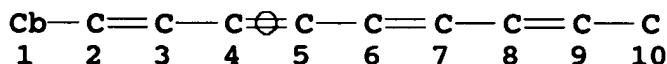
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RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L17 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L20 90 SEA FILE=REGISTRY SSS FUL L5 OR L7 OR L9 OR L13 OR L15 OR
 L17

100.0% PROCESSED 22993 ITERATIONS
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90 ANSWERS

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=> file hca

FILE 'HCA' ENTERED AT 12:14:19 ON 24 MAY 95
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(FILE 'REGISTRY' ENTERED AT 08:36:03 ON 24 MAY 95)
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FILE 'HCA' ENTERED AT 10:54:40 ON 24 MAY 95

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FILE 'REGISTRY' ENTERED AT 11:14:20 ON 24 MAY 95

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FILE 'HCA' ENTERED AT 11:19:18 ON 24 MAY 95

FILE 'REGISTRY' ENTERED AT 11:37:50 ON 24 MAY 95

FILE 'HCA' ENTERED AT 11:39:14 ON 24 MAY 95

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FILE 'REGISTRY' ENTERED AT 12:01:42 ON 24 MAY 95
E INTERFERON/CN

FILE 'HCA' ENTERED AT 12:04:09 ON 24 MAY 95

L21 21550 S L1 OR L4 OR L20
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L23 1814 S SKIN(L)(WRINKL? OR AGING OR KERATINI? OR DIFFERENTIATIO
L24 1280 S ACNE/OBI
L25 204383 S L22 OR L23 OR L24
L26 989 S L21(L)L25
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L28 7 S L26 AND L27
L29 10 S L26(L)INTERFERON?/OBI
L30 15 S L28 OR L29

FILE 'REGISTRY' ENTERED AT 12:13:27 ON 24 MAY 95

FILE 'HCA' ENTERED AT 12:14:19 ON 24 MAY 95

=>

=> d cbib abs hitrn l30 1-15

L30 ANSWER 1 OF 15 HCA COPYRIGHT 1995 ACS

122:122722 Effects of retinoic acid (vitamin A) on tumor necrosis factor
cytolytic action. Hughes, Thomas K.; Fulep, Eva (Dep. Microbiol.
and Immunol., University of Texas Med. Branch, Galveston, TX, 77550,
USA). Biochem. Biophys. Res. Commun., 206(1), 223-9 (English) 1995.
CODEN: BBRCA9. ISSN: 0006-291X.

AB Tumor necrosis factor (TNF) is a monokine produced primarily by
macrophages. TNF has a no. of activities including direct lysis of
certain transformed cells and induction of antiviral activity. One
of the prototypic transformed cell lines used for studying TNF
cytolysis is murine L-929 cells. Because of the lysis, TNF has not
been shown to have antiviral activity in these cells. Since
retinoic acid (RA) induces a normal phenotype in the L-929 cells, we
sought to det. if their conversion to a normal phenotype would (1)

render them insensitive to the cytolytic effect and (2) allow for the development of an antiviral state. We present evidence that both the cis- and trans- forms of RA and to a lesser extent, the RA precursor beta-carotene, can inhibit recombinant human TNF cytolytic activity in mouse L-929 cells. However, blockage of the cytolytic activity does not allow development of an antiviral state.

IT 302-79-4, trans-Retinoic acid 5300-03-8, 9
 -cis-Retinoic acid 7235-40-7, .beta.-Carotene
 (retinoic acid effects on tumor necrosis factor
 cytolytic action)

L30 ANSWER 2 OF 15 HCA COPYRIGHT 1995 ACS

122:45916 9-Cis-retinoic acid inhibits growth of breast cancer cells and down-regulates estrogen receptors RNA and protein. Rubin, Mark; Fenig, Eyal; Rosenauer, Angelika; Menendez-Botet, Celia; Achkar, Charles; Bentel, Jacqueline M.; Yahalom, Joachim; Mendelsohn, John; Miller, Wilson H., Jr. (Memorial Sloan-Kettering Cancer Cent., New York, NY, 10021, USA). Cancer Res., 54(24), 6549-56 (English) 1994. CODEN: CNREA8. ISSN: 0008-5472.

AB All-trans retinoic acid (tRA) inhibits growth of estrogen receptor-pos. (ER+) breast cancer cells in vitro, and a variety of retinoids inhibit development of breast cancer in animal models.

9-cis-retinoic acid (9-cis RA)

is a naturally occurring high affinity ligand for the retinoid X receptors, as well as the retinoic acid receptors (RARs). Whether 9-cis RA has a different spectrum of biol.

activity from tRA, which only binds RARs with high affinity, is largely unknown. The authors studied the effects of 9-

cis RA on growth and gene expression in ER+ and ER- human

breast cancer cells. 9-Cis RA inhibited the

growth in monolayer culture of several ER+, but not ER-, cell lines in a dose-dependent manner. Growth inhibition and morphol. changes by 9-cis RA were similar to those of tRA, suggesting that the ability to bind both RAR and retinoid X receptors did not significantly augment growth inhibition or confer sensitivity to tRA-resistant lines. MCF-7 cells exposed to

9-cis RA showed a dose-dependent accumulation in

G1. Northern anal. showed that RAR-.alpha. and RAR-.beta. were not significantly regulated, while RAR-.gamma. was up-regulated and retinoid X receptor .alpha. was down-regulated by 9-

cis RA. Since interactions between tRA and ER-dependent

transcription have recently been reported, the authors investigated whether these retinoids regulate expression of ER itself or estrogen-responsive genes. Both 9-cis RA and tRA induce down-regulation of ER mRNA and protein in MCF-7 cells.

9-Cis RA down-regulates expression of the

estrogen-responsive genes PR and pS2 in MCF-7 cells as reported previously for tRA. In several ER-pos. subclones, the authors found that the degree of ER expression and regulation, but not always estrogen-sensitivity, correlates with the growth-inhibitory effects

of 9-cis RA. Further, in an ER-, retinoid-unresponsive breast cancer cell line, induced ER expression confers responsiveness to retinoid growth inhibition. These data, combined with reports of additive growth inhibition of tRA and tamoxifen in vitro, suggest that 9-cis RA might augment the ability of tamoxifen to inhibit growth of ER+ breast cancer cells in vivo.

IT 5300-03-8, 9-cis-Retinoic acid

(cis-retinoic acid inhibits growth of breast cancer cells and down-regulates estrogen receptors RNA and protein)

L30 ANSWER 3 OF 15 HCA COPYRIGHT 1995 ACS

121:170028 Prevention of breast cancer in the rat with 9-cis-retinoic acid as a single agent and in combination with tamoxifen. Anzano, Mario A.; Byers, Stephen W.; Smith, Joseph M.; Peer, Christopher; Mullen, Larry T.; Brown, Charles C.; Roberts, Anita B.; Sporn, Michael B. (Lab. Chemoprevention, Natl. Cancer Inst., Bethesda, MD, 20892, USA). *Cancer Res.*, 54(17), 4614-17 (English) 1994. CODEN: CNREA8. ISSN: 0008-5472.

AB We show that 9-cis-retinoic acid (9cRA) is a potent inhibitor of mammary carcinogenesis induced by N-nitroso-N-methylurea in Sprague-Dawley rats. Rats were first treated with a single dose of N-nitros-N-methylurea (50 mg/kg body wt.) and then fed non-toxic levels of 9cRA (120 or 60 mg/kg of diet). 9cRA was highly effective in reducing tumor incidence, av. no. of tumors per rat, and av. tumor burden, as well as extending tumor latency. The combination of 9cRA with low levels of tamoxifen (TAM; fed at either 1.0 or 0.5 mg/kg of diet) was particularly effective; addn. of 9cRA to a TAM regimen doubled the no. of animals that were tumor-free at autopsy and significantly diminished tumor no. and tumor burden. For suppression of carcinogenesis in vivo, 9cRA was much more potent than all-trans-retinoic acid, both as a single agent or in combination with TAM, although both retinoics had equiv. inhibitory effects on DNA synthesis in cultured human breast cancer cell lines. Both 9cRA and all-trans-retinoic acid induce the expression of the adhesion mol., E-cadherin, in the SK-BR-3 cell line. We suggest that clin. evaluation of the combination of 9cRA and TAM, either for chemoprevention or for adjuvant therapy, should be considered.

IT 5300-03-8, 9-cis-Retinoic acid

(breast cancer prevention by all-trans-retinoic acid vs., interaction with tamoxifen in relation to)

L30 ANSWER 4 OF 15 HCA COPYRIGHT 1995 ACS

121:99216 Synergistic effect of retinoids and interferon .alpha. on tumor-induced angiogenesis: Anti-angiogenic effect on HPV-harboring tumor-cell lines. Majewski, S.; Szmurlo, A.; Marczak, M.; Jablonska, S.; Bollag, W. (Dep. Dermatol., Warsaw Sch. Med., Warsaw, 02-008, Pol.). *Int. J. Cancer*, 57(1), 81-5 (English) 1994. CODEN: IJCNAW. ISSN: 0020-7136.

AB Various retinoids and interferons exert anti-tumor effects both in

exptl. studies and in clin. trials. Recent reports indicate that they have a synergistic antineoplastic activity. The authors' study aimed to det. whether these synergistic anti-tumor effects are related to inhibition of tumor-cell-induced angiogenesis. A further aim was to compare the anti-angiogenic activity of various retinoids including 9-cis retinoic acid, a ligand for nuclear retinoic acid receptor RXR, given alone and in combination with interferon .alpha.-2a (IFN.alpha.-2a). An in vivo exptl. model of cutaneous angiogenesis in the mouse was used. Angiogenesis was induced by intradermal injection of HPV 16- or HPV 18 DNA-harboring tumor-cell lines. All-trans retinoic acid (all-trans RA), 13-cis retinoic acid (13-cis RA) and 9-cis retinoic acid (9-cis RA) as well as IFN.alpha.-2a applied to mice i.p. for 5 consecutive days before induction of angiogenesis resulted in significant inhibition of angiogenesis. Combination of retinoids with IFN.alpha.-2a led to a synergistic inhibition of angiogenesis, as compared to the effects of the drugs given alone. Similar results were obtained when tumor cells were preincubated in vitro with the compds., before injection into untreated mice. The authors' findings on synergistic anti-angiogenic effects of retinoids and IFN.alpha.-2a could explain, at least partially, the anti-tumor efficacy of combined therapy with these agents, and provide support for the role of angiogenesis in tumor growth.

IT 302-79-4, all-trans-Retinoic acid 4759-48-2,
13-cis-Retinoic acid 5300-03-8, 9-cis
-Retinoic acid

(tumor-induced angiogenesis synergistic inhibition by
interferon-.alpha.-2a and)

L30 ANSWER 5 OF 15 HCA COPYRIGHT 1995 ACS

120:95067 Mechanism of synergistic action of all-trans- or 9-cis-retinoic acid and interferons in breast cancer cells.

Marth, C.; Widschwendter, M.; Daxenbichler, G. (Dep. Obstetr. Gynecol., Innsbruck Univ. Hosp., Innsbruck, Austria). J. Steroid Biochem. Mol. Biol., 47(1-6), 123-6 (English) 1993. CODEN: JSBBEZ. ISSN: 0960-0760.

AB Combination of all-trans-retinoic acid (RA) with either interferon-.alpha. or -.gamma. resulted in a synergistic amplification of the anti-proliferative effect on cultured breast cancer cells. RA could be replaced by other biol. active retinoids. The synergism was also obstd. for the induction of 2'-5'-oligoadenylate synthetase, an enzyme which is involved in anti-viral activity of interferons and possibly in growth regulation of tumor cells. Combination of RA with interferon-.gamma. increased the down-regulation of specific binding sites for [125I]interferon-.gamma.. On the other hand interferons had no effect on the cytoplasmic binding protein for RA. Comparing all-trans- with 9-cis-RA, the latter was more effective in inhibiting tumor cell growth and in inducing synergism with interferon-.gamma.. This would indicate that retinoic X receptors are more important in mediating these effects than the RA

receptors (RARs). This assumption is also supported by the failure of Ro-415253, a specific RAR-.alpha. antagonist, to reduce the synergistic interaction of RA with interferon with respect to growth inhibition.

IT 302-79-4, trans-Retinoic acid 4759-48-2,
13-cis-Retinoic acid 5300-03-8, 9-cis
-Retinoic acid

(interferon-.gamma. and, synergistic inhibition of
human breast cancer cell proliferation by)

L30 ANSWER 6 OF 15 HCA COPYRIGHT 1995 ACS

119:167761 Pharmaceutical compositions containing 9-
cis-retinoic acid, salts and esters thereof. Bollag,
Werner; Grippo, Joseph Francis; Levin, Arthur (Hoffmann-La Roche,
F., und Co. A.-G., Switz.). Eur. Pat. Appl. EP 552624 A1 930728, 18
pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE,
IT, LI, LU, MC, NL, PT, SE. (English). CODEN: EPXXDW.
APPLICATION: EP 93-100257 930111. PRIORITY: US 92-823741 920122; US
92-823786 920122; US 92-823928 920122; US 92-824647 920123.

AB The title compd. (I), as well as salts and esters thereof, can be used in the treatment of malignant and premalignant epithelial lesions, skin photodamages, disorders caused by increased sebum prodn., and psoriasis. Lotion, gel, cream, capsule, tablet, and sachet formulations of I are presented. The effect of I on tumor cell-induced angiogenesis, chem. induced skin papillomas, etc. was detd.

IT 5300-03-8, 9-cis-Retinoic acid

5300-03-8D, 9-cis-Retinoic acid, esters

5300-03-8D, 9-cis-Retinoic acid, salts

(pharmaceuticals of, for treatment of (pre)malignant
epithelial lesions and psoriasis)

L30 ANSWER 7 OF 15 HCA COPYRIGHT 1995 ACS

119:93449 Detection of functional interferon alpha receptors in human neuroendocrine tumor cell lines using a new monoclonal antibody. Rosolen, A.; Colamonti, O. R.; Pfeffer, L. M.; Whitesell, L.; Nordan, R.; Neckers, L. M. (Clin. Pharmacol. Branch, NIH, Bethesda, MD, USA). Eur. Cytokine Network, 3(2), 81-8 (English) 1992. CODEN: ECYNEJ. ISSN: 1148-5493.

AB While first described as antiviral agents, interferons (IFNs) exhibit antiproliferative and antitumor effects as well. IFN.alpha. has been successfully used in clin. trials to treat several malignancies, including leukemias and certain solid tumors. While many cell types have been studied for IFN.alpha. receptor expression, very little is known about receptor expression on human neuroendocrine cells. Using a novel anti-IFN.alpha. receptor monoclonal antibody, the authors exmd. IFN.alpha. receptor expression in 10 human cell lines derived from tumors of neuroendocrine origin, including neuroblastoma, neuroepithelioma and small cell lung carcinoma. All cell lines studied displayed a similar pattern of IFN.alpha. receptor expression and 5 of 8 cell

lines demonstrated reduced thymidine incorporation following IFN. α . treatment. Addn. of exogenous IFN. α . caused a decrease in IFN. α . receptor expression, while differentiating agents, such as phorbol esters and retinoic acid, induced an increase in receptor no. without altering receptor affinity.

IT 302-79-4, Retinoic acid

(interferon- α . receptor on human neuroendocrine tumor cell lines up-regulation by)

L30 ANSWER 8 OF 15 HCA COPYRIGHT 1995 ACS

117:5824 The state of differentiation of cultured human keratinocytes determines the level of intercellular adhesion molecule-1 (ICAM-1) expression induced by .gamma. interferon. Kashiwara-Sawami, Mari; Norris, David A. (Sch. Med., Univ. Colorado, Denver, CO, 80262, USA). J. Invest. Dermatol., 98(5), 741-7 (English) 1992. CODEN: JIDEAE. ISSN: 0022-202X.

AB Inducing the expression of ICAM-1 (CD54) on the surface of epidermal keratinocytes is an important step in initiating leukocyte interaction with the epidermis. The present study exmd. the effect of keratinocyte differentiation and of drugs used to treat epidermal inflammation on the induction of this important adhesion mol. Cell membrane expression of ICAM-1 in cultured human keratinocytes was analyzed using both immunofluorescence and FACS anal. of staining with anti-ICAM-1 monoclonal antibody and was correlated with markers of keratinocyte differentiation. Cell-surface ICAM-1 expression was induced by .gamma. interferon in all culture conditions, but was significantly greater in cells grown in low-calcium medium ([Ca $^{++}$] 0.03 mM), and correlated with increased staining for the basal cell keratin K5. The synthetic retinoid Etretin (Ro 10-1670) enhanced the interferon-induced ICAM-1 expression over a wide concn. range (10 $^{-8}$ -10 $^{-5}$ M); however, this effect was only seen in the more differentiated cells grown in 0.15 mM and 1.0 mM calcium and not in the cells grown in 0.03 mM calcium. The Etretin effects on intracellular K5 staining paralleled those on cell-surface ICAM-1. Antiinflammatory glucocorticoids had no effect on ICAM-1 expression in cultured human keratinocytes, even at suboptimal .gamma. interferon doses (5 U/mL). .beta.-Estradiol, on the other hand, mimicked the Etretin effect, increasing both IFN induction of ICAM-1 expression and K5 staining in more differentiated keratinocytes in 0.15 and 1.0 mM calcium, but not in those in 0.03 mM calcium. Both Etretin and .beta.-estradiol decreased staining of involucrin, a marker of terminal differentiation, supporting the proposition that in this exptl. system these drugs suppress keratinocyte differentiation. The enhanced ICAM-1 induction in keratinocytes with a basal level of differentiation correlates with the in vivo effects of interferon on ICAM-1 and may be a principal determinant in the patterns of ICAM-1 seen in inflammatory skin diseases.

IT 55079-83-9, Etretin

(skin keratinocyte ICAM-1 induction by .gamma. interferon enhancement by, cell differentiation in relation to, in human cells)

L30 ANSWER 9 OF 15 HCA COPYRIGHT 1995 ACS

110:171448 The role of polyamines in interferon and retinoic acid mediated synergistic antiproliferative action. Marth, C.; Kirchebner, P.; Daxenbichler, G. (Dep. Obstetrics Gynecol., Univ. Hosp., Innsbruck, A-6020, Austria). Cancer Lett. (Shannon, Ire.), 44(1), 55-9 (English) 1989. CODEN: CALEDQ. ISSN: 0304-3835.

AB Retinoic acid alone has no effect on the human breast cancer cell line BT-20 but can amplify the antiproliferative action of interferon-gamma (IFN-gamma). Ornithine decarboxylase (ODC) activity correlates well with growth rate; it was investigated whether the antiproliferative effects of IFN-gamma and IFN-gamma plus retinoic acid could be attributed to suppression of ODC activity. The ODC inhibitor difluoromethylornithine (DFMO), which is active as a single agent, did not enhance growth inhibition induced by the biol. response modifiers. The substitution of the BT-20 cells with putrescine, the product of the enzymic reaction mediated by ODC, reversed DFMO induced antiproliferative action. Putrescine did not affect the proliferation of BT-20 cells treated with interferon alone or in combination with retinoic acid.

IT 302-79-4, Retinoic acid

(neoplasm synergistic inhibition by .gamma.-interferon and, ornithine decarboxylase and polyamines in relation to, of humans)

L30 ANSWER 10 OF 15 HCA COPYRIGHT 1995 ACS

108:73525 Effects of retinoids and interferon-gamma on cultured breast cancer cells in comparison with tumor necrosis factor alpha. Marth, C.; Zech, J.; Boeck, G.; Mayer, I.; Daxenbichler, G. (Dep. Obstet. Gynecol., Univ. Hosp. Innsbruck, Innsbruck, Austria). Int. J. Cancer, 40(6), 840-5 (English) 1987. CODEN: IJCNAW. ISSN: 0020-7136.

AB The combination of retinoic acid or tumor necrosis factor-.alpha. (TNF-.alpha.) with interferon .gamma. (IFN-.gamma.) resulted in a synergistic amplification of the anti-proliferative effect of IFN-.gamma. on cultured breast cancer cells. Retinoic acid could be replaced by other biol. active retinoids. This synergism was also obsd. for the induction of 2'-5'-oligoadenylate-synthetase, an enzyme which is not expressed constitutively on BT-20 human breast cancer cells and not inducible by retinoic acid or TNF-.alpha. alone. However, both substances augmented the IFN-.gamma.-mediated expression. Only TNF-.alpha. and not retinoic acid was able to increase the IFN-.gamma. induced expression of HLA-DR on the cell surface. Both cytokines antagonized the IFN-.gamma. effect on detachability of cultured BT-20 cells. The combinations of retinoic acid with IFN-.gamma. increased the down-regulation of specific binding sites for 125I-labeled IFN-.gamma..

IT 302-79-4, all-trans-Retinoic acid 54350-48-0, Ro

10-9359 55079-83-9, Ro 10-1670 65646-68-6

(mammary cancer inhibition by interferon in combination with)

L30 ANSWER 11 OF 15 HCA COPYRIGHT 1995 ACS
 105:113314 Induction of interferon by transformed cells: inhibition by retinoic acid. Hughes, T. K.; Russell, J. K.; Blalock, J. E. (Dep. Microbiol., Univ. Texas, Galveston, TX, 77550, USA). Biochem. Biophys. Res. Commun., 138(1), 47-53 (English) 1986. CODEN: BBRCA9. ISSN: 0006-291X.

AB Retinoic acid (RA) inhibited transformed mouse L-929 and human WISH cell induction of interferon α/β prodn. by nonsensitized mouse spleen cells. The RA effect was both time- and concn.-dependent and acted in near physiol. concns. The results suggest that the effect is due to a modulation of a previously described transformed cell surface-assocd. glycoprotein IFN inducer.

IT 302-79-4

(interferon induction by tumor cells
 inhibition by, of humans and lab. animals)

L30 ANSWER 12 OF 15 HCA COPYRIGHT 1995 ACS

102:111217 Effect of interferon and retinoid on phenotypic reversion of mammalian cells transformed by temperature-sensitive mutants of the avian sarcoma virus. Yang, Chen Fu (North Texas State Univ., Denton, TX, USA). 115 pp. Avail. Univ. Microfilms Int., Order No. DA8423910 From: Diss. Abstr. Int. B 1985, 45(7), 2053 (English) 1984.

AB Unavailable

IT 54350-48-0

(neoplasm inhibition by, interferon in
 relation to)

L30 ANSWER 13 OF 15 HCA COPYRIGHT 1995 ACS

101:21795 Human tumor-induced inhibition of interferon action in vitro: reversal of inhibition by β -carotene (provitamin A). Rhodes, John; Stokes, Philip; Abrams, Paul (Dep. Pathol., Univ. Cambridge, Cambridge, UK). Cancer Immunol. Immunother., 16(3), 189-92 (English) 1984. CODEN: CIIMDN. ISSN: 0340-7004.

AB Inhibitors of human interferon (IFN) action that might be relevant to tumor resistance or escape mechanisms were investigated in a macrophage system. The effects of IFN on macrophage Fc γ receptor expression were inhibited by 3 preps.: (1) a low-mol.-wt. component of normal autologous serum; (2) a low-mol.-wt. component of carcinoma supernatant; and (3) physiol. concns. of retinol and retinoic acid. Since human carcinoma tissue contains abnormally high levels of retinoic acid-binding protein, the possibility that a tumor-assocd. retinoid contributes to tumor-induced inhibition in vitro was investigated. Inhibition of IFN action in vitro by retinoic acid (vitamin A acid) was reversed by β -carotene (provitamin A). When tested in the tumor system, β -carotene also reversed inhibition by the human-carcinoma-derived signal. These data are consistent with the view that at least 1 of the tumor-derived signals inhibitory towards IFN is a tumor-assocd. retinoid, although firm evidence for this must await further

physico-chem. characterization of the inhibitory signal(s). The present data clearly show, nevertheless, that human tumor-induced inhibition of IFN in vitro can be reversed by the provitamin .beta.-carotene.

IT 7235-40-7

(interferon inhibition by neoplasm of human reversal by)

L30 ANSWER 14 OF 15 HCA COPYRIGHT 1995 ACS

99:21265 Retinoid-specific induction of differentiation and reduction of the DNA synthesis rate and tumor-forming ability of a stem cell line from a rat mammary tumor. Rudland, Philip S.; Paterson, Frieda C.; Davies, Anna C. Twiston; Warburton, Michael J. (Ludwig Inst. Cancer Res., R. Marsden Hosp., Sutton/Surrey, SM2 5PX, UK). JNCI, J. Natl. Cancer Inst., 70(5), 949-58 (English) 1983. CODEN: JJIND8. ISSN: 0198-0157.

AB Differentiation of the stem cell line rat mammary (Rama) 25 to alveolar-like cells can be monitored by the increase in prodn. of domes (hemispheric blisters) in the cell monolayer and immunoreactive casein in the tissue culture medium. This step was accelerated not only by the synthetic inducer, di-Me sulfoxide (DMSO), but also by all-trans-retinol [68-26-8], all-trans-retinal [116-31-4], all-trans-retinoic acid (RA) [302-79-4], and all-trans-retinyl acetate [127-47-9] (concn. range, 0.04-4 .mu.M) in the presence of the hormones prolactin, hydrocortisone (HC), insulin, and 17.beta.-estradiol; 9-cis -all-trans-retinal [514-85-2] was without effect. A combination of RA and HC was active in producing doming, whereas RA, all 4 hormones, and serum were required for max. prodn. of immunoreactive casein. The retinoids in the same concn. range also caused a redn. in the DNA synthetic rate in a similar time period. When Rama 25 cells were treated with RA and the 4 hormones yielding the droplet and doming cultures, subsequent injection of these cells into young, female inbred nu/nu (nude) mice led to a reduced incidence of tumors compared with injections of untreated cells. Tumorigenic variant cell lines were selected previously from Rama 25 that were either elongated and failed to differentiate at all to doming and casein-secreting cultures (Rama 521) or that did so spontaneously but whose rates were not accelerated by addn. of DMSO (Rama 259). Both Rama 521 and Rama 259 failed to respond to the retinoids and hormones in producing domes and immunoreactive casein, in decreasing DNA synthetic rates, and in lowering the incidence of tumors induced by injection of the cell lines into nude mice. Thus, the anticancer activity of the retinoids in rat mammary gland carcinogenesis may be due in part to their differentiation-inducing properties.

IT 68-26-8 116-31-4 127-47-9

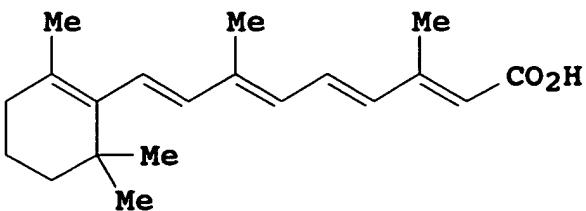
302-79-4 514-85-2

(mammary tumor differentiation and DNA formation in response to, hormones in relation to)

L30 ANSWER 15 OF 15 HCA COPYRIGHT 1995 ACS

95:126059 Retinoic acid: enhancement of a tumor and inhibition of interferon's antitumor action. Baron, Samuel; Kleyn, Kathryn M.; Russell, Jeffry K.; Blalock, J. Edwin (Med. Branch, Univ. Texas, Galveston, TX, 77550, USA). JNCI, J. Natl. Cancer Inst., 67(1), 95-7 (English) 1981. CODEN: JJIND8. ISSN: 0198-0157.

GI



AB The effect of trans-retinoic acid (I) [302-79-4] on the growth of P388 lymphoid tumors in inbred female DBA/2 mice in the presence or absence of interferon (IFN) treatment was studied. I enhanced local tumor growth and also partially reversed IFN protection against tumor growth and mortality.

IT 302-79-4

(neoplasm growth enhancement by, interferon antagonism in relation to)

=>

=>

=> select hit rn 130 1-15

E1 THROUGH E11 ASSIGNED

=> file reg

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 1995

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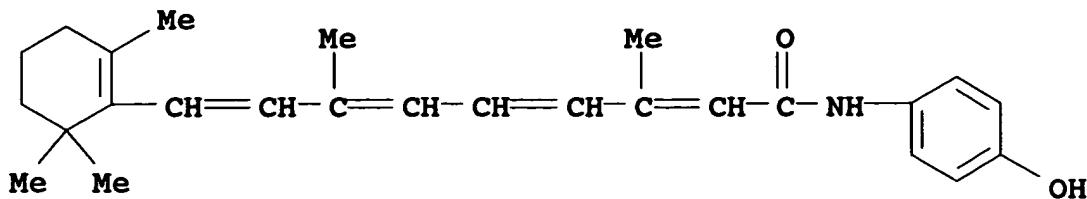
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1 302-79-4/BI
 (302-79-4/RN)
 1 5300-03-8/BI
 (5300-03-8/RN)

1 4759-48-2/BI
 (4759-48-2/RN)
 1 54350-48-0/BI
 (54350-48-0/RN)
 1 55079-83-9/BI
 (55079-83-9/RN)
 1 7235-40-7/BI
 (7235-40-7/RN)
 1 116-31-4/BI
 (116-31-4/RN)
 1 127-47-9/BI
 (127-47-9/RN)
 1 514-85-2/BI
 (514-85-2/RN)
 1 65646-68-6/BI
 (65646-68-6/RN)
 1 68-26-8/BI
 (68-26-8/RN)
 L31 11 (302-79-4/BI OR 5300-03-8/BI OR 4759-48-2/BI OR 54350-48-0
 /BI OR 55079-83-9/BI OR 7235-40-7/BI OR 116-31-4/BI OR 127
 -47-9/BI OR 514-85-2/BI OR 65646-68-6/BI OR 68-26-8/BI)

=>
 => d ide can l31 1-11

L31 ANSWER 1 OF 11 REGISTRY COPYRIGHT 1995 ACS
 RN 65646-68-6 REGISTRY
 CN Retinamide, N-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN (4-Hydroxyphenyl)retinamide
 CN 4-HPR
 CN all-trans-N-(4-Hydroxyphenyl)retinamide
 CN Fenretinide
 CN N-(4-Hydroxyphenyl)-all-trans-retinamide
 CN N-(4-Hydroxyphenyl)retinamide
 CN Retinoic acid p-hydroxyphenylamide
 CN Ro 22-4667
 MF C26 H33 N O2
 LC STN Files: ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
 CANCERLIT, CASREACT, CJACS, DDFU, DRUGNL, DRUGU, DRUGUPDATES,
 EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, PHAR, PNI, PROMT,
 RTECS*, SPECINFO, TOXLINE, TOXLIT, USAN, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: WHO
 DES 6:RETIN



189 REFERENCES IN FILE CA (1967 TO DATE)
 3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

REFERENCE 1: P 122:240076
 REFERENCE 2: 122:236415
 REFERENCE 3: 122:230320
 REFERENCE 4: 122:229973
 REFERENCE 5: 122:151007
 REFERENCE 6: 122:122680
 REFERENCE 7: P 122:72017
 REFERENCE 8: 122:71517
 REFERENCE 9: 122:71455
 REFERENCE 10: 122:46000

L31 ANSWER 2 OF 11 REGISTRY COPYRIGHT 1995 ACS

RN 55079-83-9 REGISTRY

CN 2,4,6,8-Nonatetraenoic acid, 9-(4-methoxy-2,3,6-trimethylphenyl)-3,7-dimethyl-, (all-E)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Acitretin

CN all-trans-Acitretin

CN Etretin

CN Neotigason

CN Ro 10-1670

CN TMMP

FS STEREOSEARCH

MF C21 H26 O3

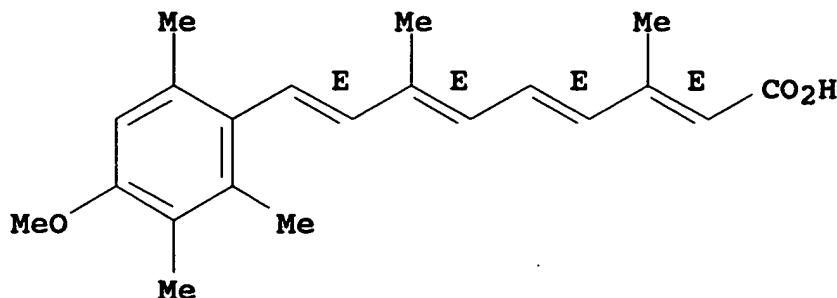
LC STN Files: AIDSLINE, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPREVIEWS, CASREACT, CHEMLIST, CBNB, CIN, DDFU, DRUGNL, DRUGU, DRUGUPDATES, EMBASE, IPA, MEDLINE, MRCK*, PHAR, PNI, PROMT, RTECS*, TOXLINE, TOXLIT, USAN, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)
 DES 2:ALL,E

Double bond geometry as shown.



1 REFERENCES IN FILE CAPREVIEWS
 264 REFERENCES IN FILE CA (1967 TO DATE)
 5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

REFERENCE	1:	122:169900
REFERENCE	2:	122:95655
REFERENCE	3:	122:56253
REFERENCE	4:	122:4728
REFERENCE	5:	121:271437
REFERENCE	6:	121:246236
REFERENCE	7:	121:245091
REFERENCE	8:	121:56327
REFERENCE	9:	120:316620
REFERENCE	10:	120:315377

L31 ANSWER 3 OF 11 REGISTRY COPYRIGHT 1995 ACS

RN 54350-48-0 REGISTRY

CN 2,4,6,8-Nonatetraenoic acid, 9-(4-methoxy-2,3,6-trimethylphenyl)-3,7-dimethyl-, ethyl ester, (all-E)- (9CI) (CA INDEX NAME)

OTHER NAMES:

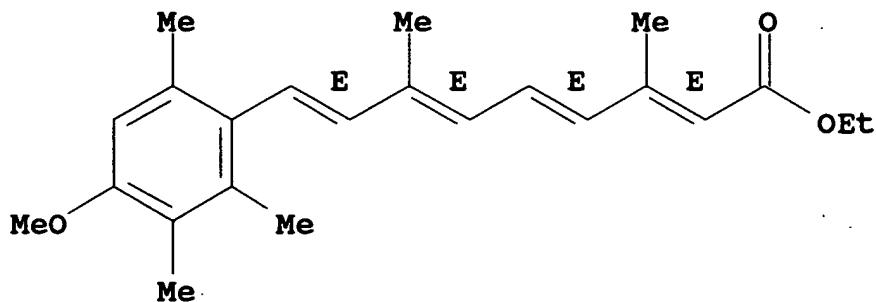
CN Ethyl etrinoate

CN Etretinate

CN Ro 10-9359

CN Tigason
 CN Tigasone
 FS STEREOSEARCH
 DR 71833-61-9
 MF C23 H30 O3
 LC STN Files: AIDSLINE, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
 CANCERLIT, CASREACT, CHEMLIST, CBNB, CIN, DDFU, DRUGU, EMBASE,
 IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, PHAR, PNI, PROMT,
 RTECS*, TOXLINE, TOXLIT, USAN, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: EINECS**, WHO
 (**Enter CHEMLIST File for up-to-date regulatory information)
 DES 2:ALL,E

Double bond geometry as shown.



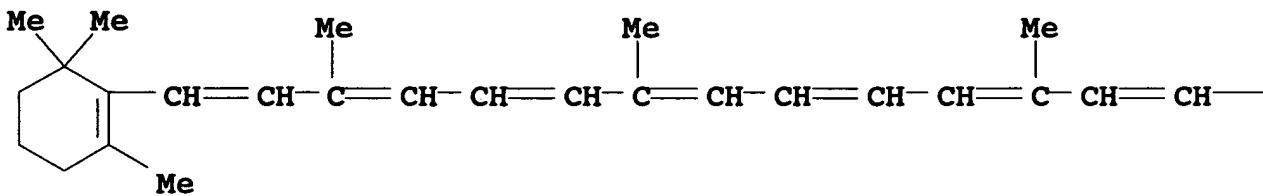
405 REFERENCES IN FILE CA (1967 TO DATE)
 12 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

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REFERENCE	2:	122:177722
REFERENCE	3:	122:96447
REFERENCE	4:	P 122:17231
REFERENCE	5:	122:1025
REFERENCE	6:	122:991
REFERENCE	7:	121:271204
REFERENCE	8:	121:246196
REFERENCE	9:	121:245551

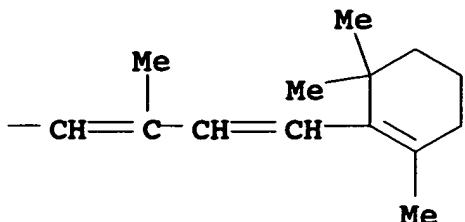
REFERENCE 10: 121:245091

L31 ANSWER 4 OF 11 REGISTRY COPYRIGHT 1995 ACS
RN 7235-40-7 REGISTRY
CN .beta.,.beta.-Carotene (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN .beta.-Carotene, all-trans- (8CI)
OTHER NAMES:
CN (all-E)-1,1'-(3,7,12,16-Tetramethyl-1,3,5,7,9,11,13,15,17-octadecanonaene-1,18-diyl)bis[2,6,6-trimethylcyclohexene]
CN .beta.-Carotene
CN all-E-.beta.-Carotene
CN all-trans-.beta.-Carotene
CN Betacarotene
CN C.I. Food Orange 5
CN Cyclohexene, 1,1'-(3,7,12,16-tetramethyl-1,3,5,7,9,11,13,15,17-octadecanonaene-1,18-diyl)bis[2,6,6-trimethyl-, (all-E)-
CN Food Orange 5
CN KPMK
CN Serlabo
DR 31797-85-0, 116-32-5
MF C40 H56
CI COM
LC STN Files: AIDSLINE, ANABSTR, APILIT, APIPLIT2, APIPAT, APIPAT2, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA, CANCERLIT, CAOLD, CAPREVIEWS, CASREACT, CEN, CHEMLIST, CBNB, CIN, CJACS, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, MSDS-SUM, NAPRALERT, PIRA, PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USAN, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
DES 6:B-B-CAROTENE

PAGE 1-A



PAGE 1-B



4 REFERENCES IN FILE CAPREVIEWS

5451 REFERENCES IN FILE CA (1967 TO DATE)

63 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

REFERENCE 1: P 122:248033
 REFERENCE 2: 122:242276
 REFERENCE 3: 122:240068
 REFERENCE 4: 122:238508
 REFERENCE 5: 122:238460
 REFERENCE 6: 122:238380
 REFERENCE 7: 122:238370
 REFERENCE 8: 122:238316
 REFERENCE 9: P 122:238255
 REFERENCE 10: 122:238214

L31 ANSWER 5 OF 11 REGISTRY COPYRIGHT 1995 ACS

RN 5300-03-8 REGISTRY

CN Retinoic acid, 9-cis- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Retinoic acid, cis-9,trans-13- (8CI)

OTHER NAMES:

CN 9-cis-Retinoic acid

CN 9-cis-Tretinoïn

FS STEREOSEARCH

MF C20 H28 O2

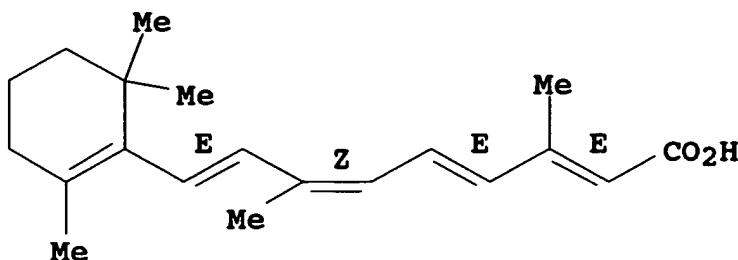
CI COM

LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPREVIEWS, CEN, CHEMINFORMRX, CIN, CJACS, CSCHEM, PNI, PROMT, SPECINFO, TOXLINE, TOXLIT, USPATFULL

(*File contains numerically searchable property data)

DES 6:9-CIS-RETIN

Absolute stereochemistry.
 Double bond geometry as shown.



3 REFERENCES IN FILE CAPREVIEWS
 194 REFERENCES IN FILE CA (1967 TO DATE)
 3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

REFERENCE	1:	122:240061
REFERENCE	2:	122:238373
REFERENCE	3:	122:233181
REFERENCE	4:	122:231665
REFERENCE	5:	122:230154
REFERENCE	6:	122:206049
REFERENCE	7:	122:204650
REFERENCE	8:	P 122:187819
REFERENCE	9:	122:184381
REFERENCE	10:	122:154423

L31 ANSWER 6 OF 11 REGISTRY COPYRIGHT 1995 ACS
 RN 4759-48-2 REGISTRY
 CN Retinoic acid, 13-cis- (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN (13Z)-Retinoic acid
 CN 13-cis-.beta.-Retinoic acid
 CN 13-cis-Retinoic acid
 CN 13-cis-Vitamin A acid
 CN Accutane
 CN Isotretinoin
 CN Neovitamin A acid
 CN Ro 4-3780

CN Roaccutane

MF C20 H28 O2

CI COM

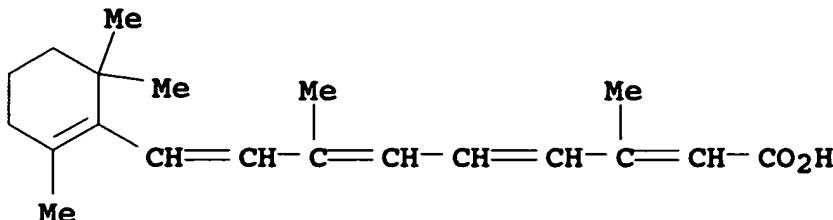
LC STN Files: AIDSLINE, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPREVIEWS, CASREACT, CHEMINFORMRX, CHEMLIST, CBNB, CIN, CJACS, CSCHEM, DDFU, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, MSDS-SUM, NAPRALERT, PIRA, PHAR, PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USAN, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)

DES 6:13-CIS-RETIN



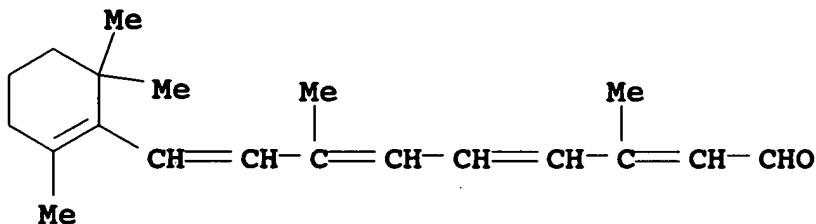
1 REFERENCES IN FILE CAPREVIEWS

850 REFERENCES IN FILE CA (1967 TO DATE)

14 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

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REFERENCE	2:	122:233181
REFERENCE	3:	122:230320
REFERENCE	4:	122:210492
REFERENCE	5:	122:179141
REFERENCE	6:	122:177856
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REFERENCE	8:	122:151005
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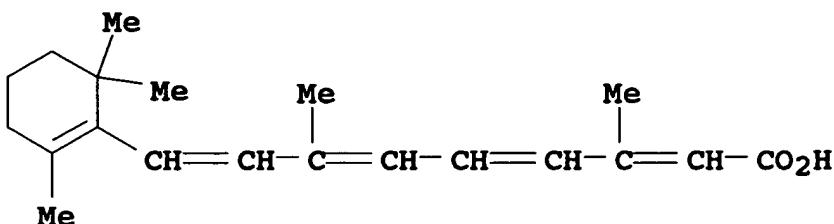
RN 514-85-2 REGISTRY
CN Retinal, 9-cis- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 9-cis-Retinal
CN 9-cis-Retinaldehyde
CN 9-cis-Vitamin A aldehyde
CN Isoretinene a
DR 69686-70-0
MF C20 H28 O
LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CASREACT,
CHEMINFORMRX, CHEMLIST, CJACS, IFICDB, IFIPAT, IFIUDB, MEDLINE,
RTECS*, SPECINFO, TOXLINE, TOXLIT, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DES 6:9-CIS-RETIN



246 REFERENCES IN FILE CA (1967 TO DATE)
13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE	1:	122:208001
REFERENCE	2:	122:127233
REFERENCE	3:	122:106178
REFERENCE	4:	122:102350
REFERENCE	5:	122:77574
REFERENCE	6:	122:74999
REFERENCE	7:	122:45608
REFERENCE	8:	122:6472
REFERENCE	9:	122:1504
REFERENCE	10:	121:288742

L31 ANSWER 8 OF 11 REGISTRY COPYRIGHT 1995 ACS
 RN 302-79-4 REGISTRY
 CN Retinoic acid (6CI, 9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Retinoic acid, all-trans- (8CI)
 OTHER NAMES:
 CN (all-E)-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonenatetraenoic acid
 CN .beta.-Retinoic acid
 CN 2,4,6,8-Nonenatetraenoic acid, 3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (all-E)-
 CN AGN 100335
 CN all-(E)-Retinoic acid
 CN all-trans-.beta.-Retinoic acid
 CN all-trans-Retinoic acid
 CN all-trans-Tretinooin
 CN all-trans-Vitamin A acid
 CN Retin A
 CN Ro 1-5488
 CN trans-Retinoic acid
 CN Tretin M
 CN Tretinooin
 CN Vitamin A acid
 CN Vitamin A acid, all-trans-
 CN Vitamin A1 acid, all-trans-
 DR 56573-65-0, 7005-78-9
 MF C20 H28 O2
 CI COM
 LC STN Files: AIDSLINE, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA, CANCERLIT, CAOLD, CAPREVIEWS, CASREACT, CEN, CHEMINFORMRX, CHEMLIST, CBNB, CIN, CJACS, CSCHEM, DDFU, DRUGNL, DRUGU, DRUGUPDATES, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, MSDS-SUM, NAPRALERT, PHAR, PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USAN, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**, WHO
 (**Enter CHEMLIST File for up-to-date regulatory information)
 DES 6:RETIN



169 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
23 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: P 122:248329
REFERENCE 2: 122:248179
REFERENCE 3: P 122:248036
REFERENCE 4: P 122:248033
REFERENCE 5: P 122:248020
REFERENCE 6: 122:240907
REFERENCE 7: P 122:240076
REFERENCE 8: 122:238381
REFERENCE 9: 122:238373
REFERENCE 10: 122:236576

L31 ANSWER 9 OF 11 REGISTRY COPYRIGHT 1995 ACS

RN 127-47-9 REGISTRY

CN Retinol, acetate (6CI, 7CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Retinol, acetate, all-trans- (8CI)

OTHER NAMES:

CN all-trans-Retinol acetate

CN all-trans-Retinyl acetate

CN all-trans-Vitamin A acetate

CN Arovit

CN Myvak

CN Myvax

CN Retinyl acetate

CN Ro 1-5275

CN trans-Retinol acetate

CN trans-Retinyl acetate

CN Vitamin A acetate

CN Vitamin A1 acetate

DR 80180-27-4, 11098-51-4, 7095-40-1, 13116-20-6

MF C22 H32 O2

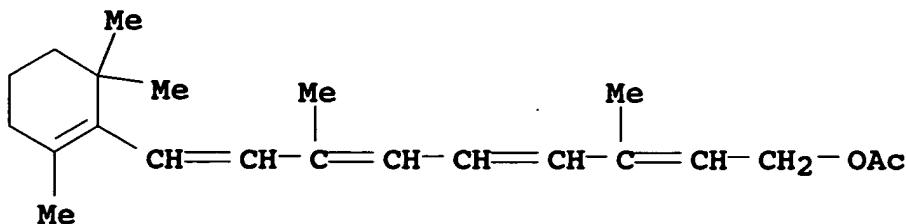
CI COM

LC STN Files: AIDSLINE, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA, CANCERLIT, CAOLD, CAPREVIEWS, CASREACT, CHEMLIST, CIN, CJACS, CSCHEM, DDFU, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, MSDS-SUM, NAPRALERT, PIRA, PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)
 DES 6:RETIN



REFERENCE 1: 122:223000
 REFERENCE 2: 122:208001
 REFERENCE 3: 122:197112
 REFERENCE 4: 122:197095
 REFERENCE 5: 122:180591
 REFERENCE 6: P 122:142616
 REFERENCE 7: P 122:142567
 REFERENCE 8: 122:89278
 REFERENCE 9: 122:64522
 REFERENCE 10: 122:54908

L31 ANSWER 10 OF 11 REGISTRY COPYRIGHT 1995 ACS

RN 116-31-4 REGISTRY

CN Retinal (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Retinal, all-trans- (8CI)

CN Retinene 1 (6CI)

OTHER NAMES:

CN (all-E)-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraenal

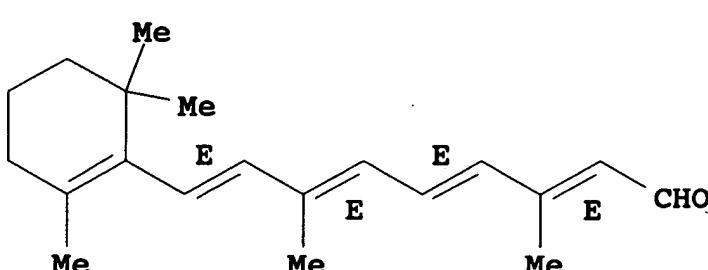
CN 2,4,6,8-Nonatetraenal, 3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (all-E)-

CN all-E-Retinal

CN all-trans-Retinal

CN all-trans-Retinaldehyde
 CN all-trans-Vitamin A aldehyde
 CN Axerophthal
 CN E-Retinal
 CN Retinaldehyde
 CN Retinene
 CN trans-Retinal
 CN trans-Vitamin A aldehyde
 CN Vitamin A aldehyde
 CN Vitamin A1 aldehyde
 FS STEREOSEARCH
 DR 7058-59-5
 MF C20 H28 O
 CI COM
 LC STN Files: ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA,
 CANCERLIT, CAOLD, CAPREVIEWS, CASREACT, CEN, CHEMINFORMRX,
 CHEMLIST, CIN, CJACS, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT,
 IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, MSDS-SUM, NAPRALERT, PIRA,
 PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)
 DES 6:RETIN

Double bond geometry as shown.



1 REFERENCES IN FILE CAPREVIEWS
 1817 REFERENCES IN FILE CA (1967 TO DATE)
 238 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 35 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE	1:	122:240051
REFERENCE	2:	122:233784
REFERENCE	3:	122:233768
REFERENCE	4:	122:225660
REFERENCE	5:	122:208082

REFERENCE 6: 122:208001
REFERENCE 7: 122:181293
REFERENCE 8: 122:177722
REFERENCE 9: 122:154473
REFERENCE 10: 122:154463

L31 ANSWER 11 OF 11 REGISTRY COPYRIGHT 1995 ACS
RN 68-26-8 REGISTRY
CN Retinol (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Retinol, all-trans- (8CI)
OTHER NAMES:
CN (all-E)-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-
nonatetraen-1-ol
CN .beta.-Retinol
CN 2,4,6,8-Nonatetraen-1-ol, 3,7-dimethyl-9-(2,6,6-trimethyl-1-
cyclohexen-1-yl)-, (all-E)-
CN A-Mulsal
CN A-Vi-Pel
CN Acon
CN Afaxin
CN Agiolan
CN Agoncal
CN Alcovit A
CN all-trans-Retinol
CN all-trans-Retinyl alcohol
CN all-trans-Vitamin A
CN all-trans-Vitamin A alcohol
CN all-trans-Vitamin A1
CN Alphalin
CN Alphasterol
CN Anatola
CN Anatola A
CN Anti-Infective vitamin
CN Antixerophthalmic vitamin
CN Aoral
CN Apexol
CN Apostavit
CN Aquasynth
CN Atav
CN Avibon
CN Avita
CN Avitol
CN Axerol
CN Axerophthol
CN Bentavit A
CN Biosterol

CN Disatabs Tabs
 CN Dofsol
 CN Dohyfral A
 CN Epiteliol
 CN Hi-A-Vita
 CN Lard Factor
 CN Myvpack
 CN Nio-A-Let
 CN Oleovitamin a
 CN Ophthalamin
 CN Plivit A
 CN Prepalin
 CN Testavol
 CN trans-Retinol
 CN trans-Vitamin A alcohol
 CN Vaflol

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY

DR 5979-23-7, 13123-33-6, 17104-91-5

MF C20 H30 O

CI COM

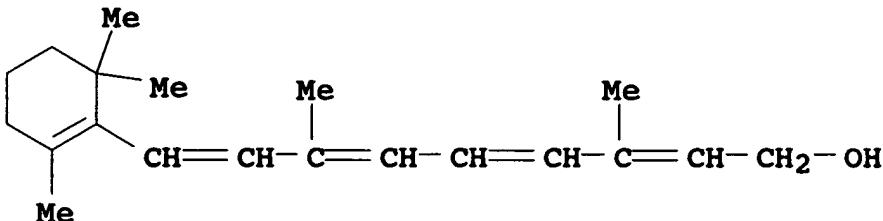
LC STN Files: ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA, CAOLD, CAPREVIEWS, CASREACT, CEN, CHEMINFORMRX, CHEMLIST, CIN, CJACS, CSCHEM, DDFU, DRUGU, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MRCK*, MSDS-OHS, MSDS-SUM, NAPRALERT, PIRA, PHAR, PNI, PROMT, RTECS*, SPECINFO, TOXLINE, TOXLIT, USAN, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)

DES 6:RETIN



4 REFERENCES IN FILE CAPREVIEWS

3883 REFERENCES IN FILE CA (1967 TO DATE)

414 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

61 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: P 122:248371

REFERENCE 2: 122:248179

REFERENCE 3: 122:238525

REFERENCE 4: 122:235632

REFERENCE 5: 122:234520

REFERENCE 6: 122:234518

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L1      1 SEA FILE=REGISTRY "9-CIS-RETINOIC ACID"/CN
L2      STR
L4      7948 SEA FILE=REGISTRY SSS FUL L2
L5      STR
L7      STR
L9      STR
L13     STR
L15     STR
L17     STR
L20     90 SEA FILE=REGISTRY SSS FUL L5 OR L7 OR L9 OR L13 OR L15 OR
          L17
L21     21550 SEA FILE=HCA L1 OR L4 OR L20
L22     201648 SEA FILE=HCA (TUMOR? OR TUMOUR? OR MALIGN? OR NEOPLAS? OR
          CANCER?)/OBI
L23     1814 SEA FILE=HCA SKIN(L) (WRINKL? OR AGING OR KERATINI? OR DIF
          FERENTIATION OR PROLIFERATION)/OBI
L24     1280 SEA FILE=HCA ACNE/OBI
L25     204383 SEA FILE=HCA L22 OR L23 OR L24
L26     989 SEA FILE=HCA L21(L)L25
L27     1167 SEA FILE=HCA 9(W)CIS
L28     7 SEA FILE=HCA L26 AND L27
L29     10 SEA FILE=HCA L26(L)INTERFERON?/OBI
L30     15 SEA FILE=HCA L28 OR L29
L34     52 SEA FILE=HCA L1 AND (63 OR 64 OR PHARM?)/SX,SC
L35     46 SEA FILE=HCA L34 NOT L30

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L35 ANSWER 1 OF 46 HCA COPYRIGHT 1995 ACS

122:230154 Structural Determinants of the Ligand-Binding Site of the
 Human Retinoic Acid Receptor .alpha.. Lefebvre, Bruno; Rachez,
 Christophe; Formstecher, Pierre; Lefebvre, Philippe (Laboratoire de
 Biochimie Structurale, Faculte de Medecine de Lille, Lille, 59045,
 Fr.). Biochemistry, 34(16), 5477-85 (English) 1995. CODEN: BICHAW.
 ISSN: 0006-2960. OTHER SOURCES: CJACS.

IT 5300-03-8, 9-cis-Retinoic acid

(structural determinants of ligand-binding site of human retinoic
 acid receptor .alpha.)

L35 ANSWER 2 OF 46 HCA COPYRIGHT 1995 ACS

122:204650 A new class of retinoids with selective inhibition of AP-1 inhibits proliferation. Fanjul, Andrea; Dawson, Marcia I.; Hobbs, Peter D.; Jong, Ling; Cameron, James F.; Harlev, Eli; Graupner, Gerhart; Lu, Xian-Ping; Pfahl, Magnus (Cancer Cent., La Jolla Cancer Res. Found., La Jolla, CA, 92037, USA). Nature (London), 372(6501), 107-11 (English) 1994. CODEN: NATUAS. ISSN: 0028-0836.

IT 5300-03-8, 9-cis-Retinoic acid
(antitumor retinoids with selective inhibition of AP-1)

L35 ANSWER 3 OF 46 HCA COPYRIGHT 1995 ACS

122:122625 Activation by retinoic acid of native retinoic acid receptor .beta.2 promoter is suppressed in human oral squamous cell carcinoma SqCC/Y1 cells. Oridate, Nobuhiko; Zou, Chang-Ping; Mitchell, Michele F.; Hong, Waun Ki; Lotan, Reuben (M. D. Anderson Cancer Center, University of Texas, Houston, TX, 77030, USA). Mol. Cell. Differ., 2(4), 413-31 (English) 1994. CODEN: MCDIEL. ISSN: 1065-3074.

IT 5300-03-8, 9-cis-Retinoic acid
(activation by retinoic acid of native retinoic acid receptor .beta.2 promoter is suppressed in human oral squamous cell carcinoma SqCC/Y1 cells)

L35 ANSWER 4 OF 46 HCA COPYRIGHT 1995 ACS

122:122453 Pharmacokinetics of 9-cis-retinoic acid in the rhesus monkey. Adamson, Peter C.; Murphy, Robert F.; Godwin, Karen A.; Ulm, Edgar H.; Balis, Frank M. (Pediatric Branch, National Cancer Institute, Bethesda, MD, 20892, USA). Cancer Res., 55(3), 482-5 (English) 1995 . CODEN: CNREA8. ISSN: 0008-5472.

IT 5300-03-8, 9-cis-Retinoic acid
(pharmacokinetics of cis-retinoic acid in rhesus monkey)

L35 ANSWER 5 OF 46 HCA COPYRIGHT 1995 ACS

122:96015 Targeted disruption of retinoic acid receptor .alpha. (RAR.alpha.) and RAR.gamma. results in receptor-specific alterations in retinoic acid-mediated differentiation and retinoic acid metabolism. Boylan, John F.; Lufkin, Tom; Achkar, Charles C.; Taneja, Reshma; Chambon, Pierre; Gudas, Lorraine J. (Dep. Pharmacology, Cornell Univ. Med. Coll., New York, NY, 10021, USA). Mol. Cell. Biol., 15(2), 843-51 (English) 1995. CODEN: MCEBD4. ISSN: 0270-7306.

IT 5300-03-8, 9-cis-Retinoic acid
(targeted disruption of retinoic acid receptor .alpha. (RAR.alpha.) and RAR.gamma. results in receptor-specific alterations in retinoic acid-mediated differentiation and retinoic acid metab.)

L35 ANSWER 6 OF 46 HCA COPYRIGHT 1995 ACS

122:95724 Single-run analysis of isomers of retinoyl-.beta.-D-glucuronide and retinoic acid by reversed-phase high-performance liquid chromatography. Sass, Joern Oliver; Nau, Heinz (Institut fuer Toxikologie und Embryopharmakologie, Freie Universitaet Berlin,

Garystrasse 5, Berlin, D-14195, Germany). J. Chromatogr., A, 685(1), 182-8 (English) 1994. CODEN: JCRAEY.

IT 5300-03-8, 9-cis-Retinoic acid

(single-run anal. of isomers of retinoyl-.beta.-D-glucuronide and retinoic acid by reversed-phase HPLC)

L35 ANSWER 7 OF 46 HCA COPYRIGHT 1995 ACS

122:45902 Retinoids (all-trans and 9-cis retinoic acid) stimulate production of macrophage colony-stimulating factor and granulocyte-macrophage colony-stimulating factor by human bone marrow stromal cells. Nakajima, Hideaki; Kizaki, Masahiro; Sonoda, Akira; Mori, Shigehisa; Harigaya, Kenichi; Ikeda, Yasuo (Division of Hematology and Laboratory Medicine, Keio University School of Medicine, Tokyo, Japan). Blood, 84(12), 4107-15 (English) 1994. CODEN: BLOOAW. ISSN: 0006-4971.

IT 5300-03-8, 9-Cis Retinoic acid

(retinoids stimulate prodn. of macrophage colony-stimulating factor and granulocyte-macrophage colony-stimulating factor by human bone marrow stromal cells)

L35 ANSWER 8 OF 46 HCA COPYRIGHT 1995 ACS

122:45877 Concentration-dependent effects of 9-cis-retinoic acid on neuroblastoma differentiation and proliferation in vitro. Lovat, Penny E.; Lewis, Stephen P.; Pearson, Andrew D. J.; Malcolm, Archie J.; Redfern, Christopher P. F. (Medical Molecular Biology Group and Departments of, Newcastle-upon-Tyne, NE2 4HH, UK). Neurosci. Lett., 182(1), 29-32 (English) 1994. CODEN: NELED5. ISSN: 0304-3940.

IT 5300-03-8, 9-cis-Retinoic acid

(concn.-dependent effects of cis-retinoic acid on neuroblastoma differentiation and proliferation in vitro)

L35 ANSWER 9 OF 46 HCA COPYRIGHT 1995 ACS

122:45608 Identification of 9,13-dicis-retinoic acid as a major plasma metabolite of 9-cis-retinoic acid and limited transfer of 9-cis-retinoic acid and 9,13-dicis-retinoic acid to the mouse and rat embryos. Tzimas, Georg; Sass, Joern Oliver; Wittfoht, Werner; Elmazar, Mohamed M. A.; Ehlers, Katharine; Nau, Heinz (Inst. Toxikol. Embryopharmakol., Freie Univ. Berlin, Berlin, D-14195, Germany). Drug Metab. Dispos., 22(6), 928-36 (English) 1994. CODEN: DMDSA1. ISSN: 0090-9556.

IT 5300-03-8, 9-cis-Retinoic acid

(identification of plasma metabolites of cis-retinoic acid and transfer to mouse and rat embryos)

L35 ANSWER 10 OF 46 HCA COPYRIGHT 1995 ACS

122:23513 Inhibition of nitric oxide synthesis in vascular smooth muscle by retinoids. Hirokawa, K.; O'Shaughnessy, K. M.; Ramrakha, P.; Wilkins, M. R. (Dep. Clin. Pharmacol., Royal Postgraduate Medical School, London, W12 ONN, UK). Br. J. Pharmacol., 113(4), 1448-54 (English) 1994. CODEN: BJPCBM. ISSN: 0007-1188.

IT 5300-03-8, 9-cis-Retinoic acid

(retinoids inhibition of interleukin 1. β -induced nitric oxide formation by aorta)

L35 ANSWER 11 OF 46 HCA COPYRIGHT 1995 ACS

122:547 9-cis-Retinoic acid represses estrogen-induced expression of the very low density apolipoprotein II gene. Schippers, Ingrid J.; Kloppenburg, Mariska; Snippe, Lenie; AB, Geert (Department of Biochemistry, University of Groningen, AG Groningen, 9747, Neth.). Mol. Cell. Endocrinol., 105(2), 175-82 (English) 1994. CODEN: MCEND6. ISSN: 0303-7207.

IT 5300-03-8, 9-cis-Retinoic acid

(retinoic acid effect on estrogen-induced expression of very low d. apolipoprotein II gene)

L35 ANSWER 12 OF 46 HCA COPYRIGHT 1995 ACS

121:292728 Biological activity of all-trans-retinol requires metabolic conversion to all-trans-retinoic acid and is mediated through activation of nuclear retinoid receptors in human keratinocytes. Kurlandsky, Sara B.; Xiao, Jia-Hao; Duel, Elizabeth A.; Voorhees, John J.; Fisher, Gary J. (Dep. Dermatology, Univ. Michigan, Ann Arbor, MI, 48109-0528, USA). J. Biol. Chem., 269(52), 32821-7 (English) 1994. CODEN: JBCHA3. ISSN: 0021-9258.

IT 5300-03-8, 9-cis-Retinoic acid

(biol. activity of all-trans-retinol requires metabolic conversion to all-trans-retinoic acid and is mediated through activation of nuclear retinoid receptors in human keratinocytes)

L35 ANSWER 13 OF 46 HCA COPYRIGHT 1995 ACS

121:292206 Different combinations of retinoids and vitamin D3 analogs efficiently promote growth inhibition and differentiation of myelomonocytic leukemia cell lines. Defacque, H.; Dornand, J.; Commes, T.; Cabane, S.; Sevilla, C.; Marti, J. (Inst. Natl. Sante Rech. Med. U65, Univ. Montpellier II, Montpellier, 34095, Fr.). J. Pharmacol. Exp. Ther., 271(1), 193-9 (English) 1994. CODEN: JPETAB. ISSN: 0022-3565.

IT 5300-03-8, 9-cis-Retinoic acid

(combinations of retinoids and vitamin D3 analogs efficiently promote growth inhibition and differentiation of myelomonocytic leukemia cell lines)

L35 ANSWER 14 OF 46 HCA COPYRIGHT 1995 ACS

121:272138 Retinoic acid-induced inhibition of type I collagen gene expression by human lung fibroblasts. Krupsky, Meir; Fine, Alan; Berk, John L.; Goldstein, Ronald H. (The Pulmonary Center and the Department of Biochemistry at Boston University School of Medicine and the Boston Veteran Administration Medical Center, Boston, MA, 02118, USA). Biochim. Biophys. Acta, 1219(2), 335-41 (English) 1994. CODEN: BBACAQ. ISSN: 0006-3002.

IT 5300-03-8, 9-cis-Retinoic acid

(retinoic acid-induced inhibition of type I collagen gene expression by human lung fibroblasts)

L35 ANSWER 15 OF 46 HCA COPYRIGHT 1995 ACS

121:271437 Aromatic retinoic acid derivatives are potent inducers of differentiation of neuroblastoma cells: Structure-function relationship and the involvement of the nuclear retinoic acid receptors. Gazitt, Yair; Rosenberger, Michael; Grippo, Joseph F.; Lucas, Debra A.; Pranker, Richard J. (Department Medicine, Arkansas University Medical Sciences, Little Rock, AR, USA). Int. J. Oncol., 5(2), 243-51 (English) 1994. CODEN: IJONES. ISSN: 1019-6439.

IT 5300-03-8, 9-cis-Retinoic acid

(arom. retinoic acid derivs. are potent inducers of differentiation of neuroblastoma cells)

L35 ANSWER 16 OF 46 HCA COPYRIGHT 1995 ACS

121:247069 Retinoids are positive effectors of adipose cell differentiation. Safanova, Irina; Darimont, Christian; Amri, Ez-Zoubir; Grimaldi, Paul; Ailhaud, Gerard; Reichert, Uwe; Shroot, Braham (Centre de Biochimie (UMR 134 CNRS), Universite de Nice-Sophia Antipolis, Faculte des Sciences, Parc Valrose, Nice, 06108/2, Fr.). Mol. Cell. Endocrinol., 104(2), 201-11 (English) 1994. CODEN: MCEND6. ISSN: 0303-7207.

IT 5300-03-8, 9-cis-Retinoic acid

(retinoids are pos. effectors of adipose cell differentiation)

L35 ANSWER 17 OF 46 HCA COPYRIGHT 1995 ACS

121:245339 Biological effect of geometrical isomers of retinoic acid on human promyelocytic leukemia (HL-60) cells. Murayama, Akira; Suzuki, Takakazu; Matsui, Masanao (Dep. Clin. Genet., Tokyo Metropolitan Inst. Med. Sci., Tokyo, 113, Japan). Proc. Jpn. Acad., Ser. B, 70(6), 81-6 (English) 1994. CODEN: PJABDW. ISSN: 0386-2208.

IT 5300-03-8, 9-cis-Retinoic acid

(retinoic acid isomer effect on human promyelocytic leukemia (HL-60) cells)

L35 ANSWER 18 OF 46 HCA COPYRIGHT 1995 ACS

121:244842 Differentiation therapy of leukemia. Honma, Yoshio (Saitama Cancer Cent. Res. Inst., Saitama, 362, Japan). Igaku no Ayumi, 170(10), 916-19 (Japanese) 1994. CODEN: IGAYAY. ISSN: 0039-2359.

IT 5300-03-8, 9-cis-Retinoic acid

(in leukemia treatment)

L35 ANSWER 19 OF 46 HCA COPYRIGHT 1995 ACS

121:227930 The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells. Von Schroeder, Herbert P.; Hashimoto, Yuichi; Heersche, Johan N.M. (Faculty of Dentistry, University of Toronto, Toronto, ON, Can.). Teratology, 50(1), 54-62 (English) 1994. CODEN: TJADAB. ISSN: 0040-3709.

IT 5300-03-8, 9-cis-Retinoic acid

(the effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells)

L35 ANSWER 20 OF 46 HCA COPYRIGHT 1995 ACS

121:221053 Conformation of retinoic acid and structure-activity relationships. Retinobenzoic acid. Rhee, Jong-dal; Rhee, In-ja (Jong-dal Rhee, Rhee, In-ja, Kyungsan, 712-749, S. Korea). Yakhak Hoechi, 38(3), 230-7 (Korean) 1994. CODEN: YAHOA3. ISSN: 0513-4234.

IT 5300-03-8

(conformation of retinoic acid and structure-activity relationships in human cell differentiation induction)

L35 ANSWER 21 OF 46 HCA COPYRIGHT 1995 ACS

121:195848 Structural basis for the differential RXR & RAR activity of stilbene retinoid analogs. Beard, Richard L.; Gil, Daniel W.; Marier, Deborah K.; Henry, Elizabeth; Colon, Diana F.; Gillett, Samuel J.; Arefieq, Taghreed; Breen, Timothy S.; Krauss, Heather; et al. (Dep. Chem., Allergan Incorporated, Irvine, CA, 92715, USA). Bioorg. Med. Chem. Lett., 4(12), 1447-52 (English) 1994. CODEN: BMCLE8. ISSN: 0960-894X.

IT 5300-03-8, 9-cis-Retinoic acid

(structural basis for differential RXR & RAR activity of stilbene retinoid analogs)

L35 ANSWER 22 OF 46 HCA COPYRIGHT 1995 ACS

121:169881 Novel retinoic acid, 9-cis retinoic acid, in combination with all-trans retinoic acid is an effective inducer of differentiation of retinoic acid-resistant HL-60 cells. Kizaki, Masahiro; Nakajima, Hideaki; Mori, Shigehisa; Koike, Tsuneaki; Morikawa, Minoru; Ohta, Masatsugu; Saito, Masaki; Koeffler, H. Phillip; Ikeda, Yasuo (Sch. Med., Keio Univ., Tokyo, 160, Japan). Blood, 83(11), 3289-97 (English) 1994. CODEN: BLOOAW. ISSN: 0006-4971.

IT 5300-03-8, 9-cis-Retinoic acid

(all-trans-retinoic acid combination with, differentiation of retinoic acid-resistant HL-60 cells response to)

L35 ANSWER 23 OF 46 HCA COPYRIGHT 1995 ACS

121:126151 RXR receptor homodimer formation and bridged bicyclic aromatic compounds and their use in modulating gene expression and screening modulating compounds. Pfahl, Magnus; Zhang, Xiao Kun; Lehmann, Jurgen M.; Dawson, Marcia I.; Cameron, James F.; Hobbs, Peter D.; Jong, Ling (La Jolla Cancer Research Foundation, USA; SRI International). PCT Int. Appl. WO 9412880 A2 940609, 102 pp.

DESIGNATED STATES: W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 93-US11492 931124. PRIORITY: US 92-982305 921125; US 92-982174 921125.

IT 5300-03-8P, 9-cis-Retinoic acid

(prepn. of and retinoid X receptor homodimer formation induction

with)

L35 ANSWER 24 OF 46 HCA COPYRIGHT 1995 ACS

121:98967 Determination of a new retinoid: 9-cis-retinoic acid in plasma by HPLC. Marchetti, M. N.; Bun, H.; Geiger, J. M.; Durand, A. (Lab. Hosp.-Univ. Pharm. Toxicol., UFR Pharm., Marseille, 13385, Fr.). Anal. Lett., 27(10), 1847-62 (English) 1994. CODEN: ANALBP. ISSN: 0003-2719.

IT 5300-03-8, 9-cis-Retinoic acid
(detn. of, in blood by HPLC)

L35 ANSWER 25 OF 46 HCA COPYRIGHT 1995 ACS

121:74526 Binding of 9-cis-retinoic acid and all-trans-retinoic acid to retinoic acid receptors .alpha., .beta., and .gamma.. Retinoic acid receptor .gamma. binds all-trans-retinoic acid preferentially over 9-cis-retinoic acid. Allenby, Gary; Janocha, Reinholt; Kazmer, Sonja; Speck, Jeffrey; Grippo, Joseph F.; Levin, Arthur A. (Dep. Toxicol. Pathol., Hoffmann-La Roche Inc., Nutley, NJ, 07110, USA). J. Biol. Chem., 269(24), 16689-95 (English) 1994. CODEN: JBCHA3. ISSN: 0021-9258.

IT 5300-03-8, 9-cis-Retinoic acid
(retinoic acid receptor subtypes binding of)

L35 ANSWER 26 OF 46 HCA COPYRIGHT 1995 ACS

121:209 Differences in the pharmacokinetic properties of orally administered all-trans-retinoic acid and 9-cis-retinoic acid in the plasma of nude mice. Achkar, Charles C.; Bentel, Jacqueline M.; Boylan, John F.; Scher, Howard I.; Gudas, Lorraine J.; Miller, Wilson H., Jr. (Med. Coll., Cornell Univ., NY, USA). Drug Metab. Dispos., 22(3), 451-8 (English) 1994. CODEN: DMDSAI. ISSN: 0090-9556.

IT 5300-03-8, 9-cis-Retinoic acid
(pharmacokinetics of, trans isomer vs.)

L35 ANSWER 27 OF 46 HCA COPYRIGHT 1995 ACS

120:289619 Competitive PCR demonstrates that 9-cis retinoic acid induces cellular retinoic acid-binding protein-II more efficiently than all-trans retinoic acid in human osteosarcoma cells. Melhus, Haakan; Gobl, Anders; Ljunghall, Sverker (Dep. Intern. Med., Univ. Hosp., Uppsala, S-751 85, Swed.). Biochem. Biophys. Res. Commun., 200(2), 1125-9 (English) 1994. CODEN: BBRCA9. ISSN: 0006-291X.

IT 5300-03-8, 9-cis-Retinoic acid
(cellular retinoic acid-binding protein-II induction in human osteosarcoma by)

L35 ANSWER 28 OF 46 HCA COPYRIGHT 1995 ACS

120:260816 Retinoic acid inhibition of IL-1-induced IL-6 production by human lung fibroblasts. Zitnik, Ralph J.; Kotloff, Robert M.; Latifpour, Jamshid; Zheng, Tao; Whiting, Narda L.; Schwalb, Jason; Elias, Jack A. (Sch. Med., Yale Univ., New Haven, CT, 06510-8040, USA). J. Immunol., 152(3), 1419-27 (English) 1994. CODEN: JOIMA3.

ISSN: 0022-1767.

IT 5300-03-8, 9-cis-Retinoic acid
(interleukin-1-induced interleukin-6 prodn. by human lung fibroblasts inhibition by)

L35 ANSWER 29 OF 46 HCA COPYRIGHT 1995 ACS
120:235650 All-Trans- and 9-Cis-Retinoic Acid: Potent Direct Inhibitors of Primitive murine Hematopoietic Progenitors in vitro. Jacobsen, Sten E. W.; Fahlman, Cecilia; Blomhoff, Heidi K.; Okkenhaug, Cecilie; Rusten, Leiv S.; Smeland, Erlend B. (Inst. Cancer Res., Norweg. Radium Hosp., Oslo, N-0310, Norway). J. Exp. Med., 179(5), 1665-70 (English) 1994. CODEN: JEMEAV. ISSN: 0022-1007.
IT 5300-03-8, 9-Cis-Retinoic Acid
(differentiation and proliferation of primitive hematopoietic progenitor cells inhibition by)

L35 ANSWER 30 OF 46 HCA COPYRIGHT 1995 ACS
120:235378 9-Cis-retinoyl-.beta.-D-glucuronide is a major metabolite of 9-cis-retinoic acid. [Erratum to document cited in CA120(13):152923n]. Sass, Joern Oliver; Tzimas, Georg; Nau, Heinz (Inst. Toxikol. Embryopharmakol., Freie Univ. Berlin, Berlin, D-14195, Germany). Life Sci., 54(17), PL 311 (English) 1994. CODEN: LIFSAK. ISSN: 0024-3205.

IT 5300-03-8
(formation of, as retinaldehyde metabolite (Erratum))

L35 ANSWER 31 OF 46 HCA COPYRIGHT 1995 ACS
120:226998 Pharmaceutical compositions containing retinoic acid isomers. Bollag, Werner; Brockhaus, Manfred; Hunziker, Willi (F. Hoffmann-La Roche AG, Switz.). Can. Pat. Appl. CA 2096196 AA 931121, 15 pp. (English). CODEN: CPXXEB. APPLICATION: CA 93-2096196 930513. PRIORITY: CH 92-1619 920520; CH 93-926 930326.

IT 5300-03-8, 9-cis-Retinoic acid
(pharmaceutical compns. contg. vitamin D derivs. and)

L35 ANSWER 32 OF 46 HCA COPYRIGHT 1995 ACS
120:182547 9-Cis and all-trans retinoic acid induce a similar phenotype in human teratocarcinoma cells. Kurie, Jonathan M.; Buck, Jochen; Eppinger, Thomas M.; Moy, Denise; Dmitrovsky, Ethan (Dep. Med., Memorial Sloan-Kettering Cancer Cent., New York, NY, 10021, USA). Differentiation (Berlin), 54(2), 123-9 (English) 1993. CODEN: DFFNAW. ISSN: 0301-4681.

IT 5300-03-8, 9-cis-Retinoic acid
(differentiation of human teratocarcinoma induction by, retinoic acid receptor-.beta. and retinoid X receptor-.alpha. in relation to)

L35 ANSWER 33 OF 46 HCA COPYRIGHT 1995 ACS
120:182196 Separation of retinoic acid isomers using micellar electrokinetic chromatography. Chan, King C.; Lewis, Kevin C.; Phang, James M.; Issaq, Haleem J. (Program Resour., Inc./DynCorp.,

Frederick, MD, 21702, USA). J. High Resolut. Chromatogr., 16(9), 560-1 (English) 1993. CODEN: JHRCE7. ISSN: 0935-6304.

IT 5300-03-8

(detn. of, in blood plasma by micellar electrokinetic chromatog.)

L35 ANSWER 34 OF 46 HCA COPYRIGHT 1995 ACS

120:152923 9-Cis-retinoyl-.beta.-D-glucuronide is a major metabolite of 9-cis-retinoic acid. Sass, Joern Oliver; Tzimas, Georg; Nau, Heinz (Inst. Toxikol. Embryopharmakol., Freie Univ. Berlin, Berlin, D-14195, Germany). Life Sci., 54(6), PL69-PL74 (English) 1994. CODEN: LIFSAK. ISSN: 0024-3205.

IT 5300-03-8, 9-cis-Retinoic acid

(formation of, as retinaldehyde metabolite)

L35 ANSWER 35 OF 46 HCA COPYRIGHT 1995 ACS

120:124380 Biological effect of 9-cis-retinoic acid and 9,13-di-cis-retinoic acid on human acute promyelocytic leukemia cell line HL-60. Murayama, Akira; Suzuki, Takakazu; Matsui, Masanao (Dep. Clin. Genet., Tokyo Metrop. Inst. Med. Sci., Tokyo, 113, Japan). Proc. Jpn. Acad., Ser. B, 69(7), 185-90 (English) 1993. CODEN: PJABDW. ISSN: 0386-2208.

IT 5300-03-8, 9-cis-Retinoic acid

(acute promyelocytic leukemia inhibition by, in human cells, synergistic action with dihydroxyvitamin D3)

L35 ANSWER 36 OF 46 HCA COPYRIGHT 1995 ACS

120:95771 Treatment of inflammatory dermatoses with corticosteroids and retinoids. Kligman, Albert M. (USA). PCT Int. Appl. WO 9315740 A1 930819, 35 pp. DESIGNATED STATES: W: AU, CA, CZ, FI, JP, KR, NO, NZ; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 93-US1043 930129. PRIORITY: US 92-832828 920207.

IT 5300-03-8D, 9-cis-Retinoic acid, mixts. with corticosteroids

(dermatitis treatment with)

L35 ANSWER 37 OF 46 HCA COPYRIGHT 1995 ACS

120:95012 Inhibition of tumor cell-induced angiogenesis by retinoids, 1,25-dihydroxyvitamin D3 and their combination. Majewski, S.; Szmurlo, A.; Marczak, M.; Jablonska, S.; Bollag, W. (Dep. Dermatol., Warsaw Sch. Med., Warsaw, 02-008, Pol.). Cancer Lett. (Shannon, Irel.), 75(1), 35-9 (English) 1993. CODEN: CALEDQ. ISSN: 0304-3835.

IT 5300-03-8, 9-cis Retinoic acid

(angiogenesis inhibition by dihydroxyvitamin D3 and, antitumor activity in relation to)

L35 ANSWER 38 OF 46 HCA COPYRIGHT 1995 ACS

119:263421 The peroxisome proliferator-activated receptor:retinoid X receptor heterodimer is activated by fatty acids and fibrate hypolipemic drugs. Issemann, I.; Prince, R. A.; Tugwood, J. D.; Green, S. (ZENECA Cent. Toxicol. Lab., Macclesfield/Cheshire, SK10

4TJ, UK). J. Mol. Endocrinol., 11(1), 37-47 (English) 1993. CODEN: JMEEI. ISSN: 0952-5041.

IT 5300-03-8

(peroxisome proliferator-activated receptor action enhancement by)

L35 ANSWER 39 OF 46 HCA COPYRIGHT 1995 ACS

119:151651 Conformational effects on retinoid receptor selectivity. 1. Effect of 9-double bond geometry on retinoid X receptor activity. Jong, Ling; Lehmann, Jurgen M.; Hobbs, Peter D.; Harlev, Eli; Huffman, John C.; Pfahl, Magnus; Dawson, Marcia I. (Bio-Org. Chem. Lab., SRI Int., Menlo Park, CA, USA). J. Med. Chem., 36(18), 2605-13 (English) 1993. CODEN: JMCMAR. ISSN: 0022-2623. OTHER SOURCES: CJACS-IMAGE; CJACS.

IT 5300-03-8

(retinoid x and retinoic acid receptors selectivity of, structure in relation to)

L35 ANSWER 40 OF 46 HCA COPYRIGHT 1995 ACS

119:109733 Peroxisome proliferator-activated receptors and lipid metabolism. Keller, Hansjoerg; Mahfoudi, Abderrahim; Dreyer, Christine; Hihi, Abdelmadjid K.; Medin, Jeffrey; Ozato, Keiko; Wahli, Walter (Inst. Biol. Anim., Univ. Lausanne, Lausanne, 1015, Switz.). Ann. N. Y. Acad. Sci., 684(Zinc-Finger Proteins in Oncogenesis), 157-73 (English) 1993. CODEN: ANYAA9. ISSN: 0077-8923.

IT 5300-03-8

(signaling pathway, peroxisome proliferator-activated receptors in, lipid metab. in relation to)

L35 ANSWER 41 OF 46 HCA COPYRIGHT 1995 ACS

119:86047 Use of retinoids for the treatment of coronary artery disease via increase of plasma HDL level. Katocs, Andrew S., Jr.; Largis, Elwood; Karathanasis, Sotirios K. (American Cyanamid Co., USA). U.S. US 5219888 A 930615, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 92-860814 920331.

IT 5300-03-8, 9-cis-Retinoic acid

(HDL level of plasma increase with, coronary artery disease treatment in relation to)

L35 ANSWER 42 OF 46 HCA COPYRIGHT 1995 ACS

118:93806 Differentiation-inducing activity of retinoic acid isomers and their oxidized analogs on human promyelocytic leukemia HL-60 cells. Matsushima, Youko; Kawachi, Emiko; Tanaka, Hideo; Kagechika, Hiroyuki; Hashimoto, Yuichi; Shudo, Koichi (Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan). Biochem. Biophys. Res. Commun., 189(2), 1136-42 (English) 1992. CODEN: BBRCA9. ISSN: 0006-291X.

IT 5300-03-8, 9-cis-Retinoic acid

(differentiation-inducing activity of, in human promyelocytic leukemia, structure in relation to)

L35 ANSWER 43 OF 46 HCA COPYRIGHT 1995 ACS

118:39207 Preparation of vitamin A acid ester compounds as antitumor agents and ulcer therapeutics for skin and digestive tract. Toyoda, Hitoshi; Tsuji, Masahiro; Otsuki, Masato (Nisshin Flour Milling Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04244076 A2 920901 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 91-27798 910130.

IT 5300-03-8

(esterification of, by tocopherols)

L35 ANSWER 44 OF 46 HCA COPYRIGHT 1995 ACS

118:39206 Preparation vitamin A acid ester compounds as antitumor agents and ulcer therapeutics for skin and digestive tract. Toyoda, Hitoshi; Tsuji, Masahiro; Sakurai, Einosuke (Nisshin Flour Milling Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04244058 A2 920901 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 91-27799 910130.

IT 5300-03-8

(esterification of, by vitamin D)

L35 ANSWER 45 OF 46 HCA COPYRIGHT 1995 ACS

105:151923 Retinoic acid induced HL-60 myeloid differentiation: dependence of early and late events on isomeric structure. Yen, Andrew; Powers, Vickie; Fishbaugh, Justin (Dep. Intern. Med., Univ. Iowa, Iowa City, IA, 52242, USA). Leuk. Res., 10(6), 619-29 (English) 1986. CODEN: LEREDD. ISSN: 0145-2126.

IT 5300-03-8

(myeloid cell differentiation response to)

L35 ANSWER 46 OF 46 HCA COPYRIGHT 1995 ACS

96:154891 Determination of 13-cis-retinoic acid and its major metabolite, 4-oxo-13-cis-retinoic acid, in human blood by reversed-phase high-performance liquid chromatography. Vane, Floie M.; Stoltenborg, Janet K.; Bugge, Christopher J. L. (Dep. Biochem. Drug Metab., Hoffmann-La Roche Inc., Nutley, NJ, 07110, USA). J. Chromatogr., 227(2), 471-84 (English) 1982. CODEN: JOCRAM. ISSN: 0021-9673.

IT 5300-03-8

(detn. of, in blood of humans, by high performance liq. chromatog.)

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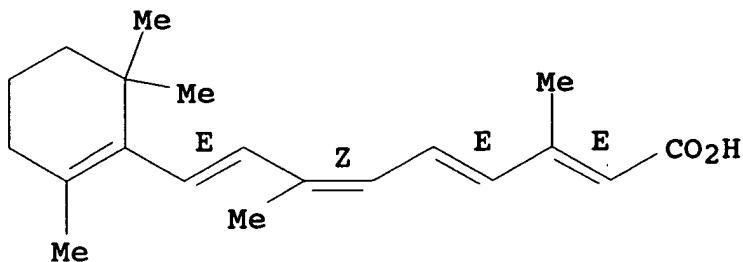
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 RN 5300-03-8 REGISTRY
 CN Retinoic acid, 9-cis- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Retinoic acid, cis-9,trans-13- (8CI)
 OTHER NAMES:
 CN 9-cis-Retinoic acid
 CN 9-cis-Tretinoïn
 FS STEREOSEARCH
 MF C20 H28 O2
 CI COM
 LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPREVIEWS, CEN,
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 DES 6:9-CIS-RETIN

Absolute stereochemistry.
 Double bond geometry as shown.



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